

## CLAIMS

What is claimed is:

- 1    1.    A method comprising:  
2            a network computer (NC) client booting from a boot image provided by an NC  
3            server, the boot image including information identifying the location of  
4            one or more system volumes on the NC server, the one or more system  
5            volumes containing operating system software; and  
6            in response to an attempt to modify the contents of the one or more system  
7            volumes, the NC client causing information identifying a modification  
8            associated with the attempt to be recorded on the NC server separate from  
9            the one or more system volumes in a storage area associated with the NC  
10          client.
- 1    2.    The method of claim 1, further comprising  
2            transmitting information identifying a user of the NC client to the NC server;  
3            receiving information identifying the user's desktop environment preferences  
4            from the NC server; and  
5            customizing a desktop environment of the NC client in accordance with the user's  
6            desktop environment preferences.
- 1    3.    The method of claim 1, wherein the one or more system volumes are presented to  
2            the NC client as a split operating system including a core operating system  
3            volume that can be read but not written by the NC client and a user operating  
4            system volume that can be read and/or written by the NC client, wherein the  
5            storage area associated with the NC client comprises a shadow volume  
6            corresponding to the user operating system volume, and wherein the step of the

7 NC client causing information identifying a modification associated with the  
8 attempt to be recorded comprises tracking modifications to the user operating  
9 system volume in the shadow volume.

1 4. The method of claim 1, further comprising, prior to the step of booting from a  
2 boot image provided by an NC server, (1) the NC client initiating a boot process  
3 by booting into a local memory of the NC client, (2) the NC client transmitting a  
4 boot request to the NC server, and (3) the NC client receiving the boot image from  
5 the NC server.

1 5. The method of claim 3, wherein the step of booting from a boot image provided  
2 by an NC server further includes the NC client locally executing the boot image  
3 and mounting the one or more system volumes.

- 1     6.     A network computer (NC) client comprising:  
2           a bootstrapping means for booting from a boot image provided by an NC server,  
3           the boot image including information identifying the location of one or  
4           more system volumes on the NC server, the one or more system volumes  
5           containing operating system software; and  
6           a redirecting means, responsive to an attempt to modify the contents of the one or  
7           more system volumes, for causing information identifying a modification  
8           associated with the attempt to be recorded on the NC server separate from  
9           the one or more system volumes in a storage area associated with the NC  
10          client.
- 1     7.     The NC client of claim 6, further comprising a banding means for incorporating  
2           the modification within one or more bands comprising a predetermined number of  
3           blocks.
- 1     8.     A method comprising:  
2           a network computer (NC) client booting from a boot image provided by an NC  
3           server, the boot image including information identifying the location of  
4           one or more system volumes on the NC server, the one or more system  
5           volumes containing operating system software;  
6           the NC client mounting the one or more system volumes; and  
7           in response to a write request from a file system of the NC client that contains a  
8           modification to the one or more system volumes, a block device driver of  
9           the NC client redirecting the write request and causing information  
10          identifying the modification to be recorded on the NC server in a storage

11 area associated with the NC client that is separate from the one or more  
12 system volumes.

1 9. A method comprising:  
2 a network computer (NC) client booting from a boot image provided by an NC  
3 server, the boot image including information identifying the location of  
4 one or more system volumes on the NC server, the one or more system  
5 volumes containing operating system software that has one or more  
6 customizable attributes;  
7 in response to a change to an attribute of the one or more customizable attributes,  
8 the NC client causing information identifying the change to be recorded on  
9 the NC server in a storage area associated with the NC client that is  
10 separate and distinct from the one or more system volumes.

1 10. A method comprising:  
2 a network computer (NC) server providing a boot image to an NC client, the boot  
3 image including information identifying the location on the NC server of  
4 one or more system volumes containing operating system software; and  
5 in response to a write request from the NC client that contains a modification to  
6 the operating system software, the NC server recording information  
7 identifying the modification on the NC server in a storage area associated  
8 with the NC client that is separate from the one or more system volumes.

1 11. The method of claim 10, further comprising the NC server maintaining the one or  
2 more system volumes as a split operating system including a single core operating

3 system volume that can be read but not written by the NC client and a user  
4 operating system volume that can be both read and written by the NC client.

1 12. The method of claim 11, wherein the storage area associated with the NC client  
2 contains a non-persistent shadow volume corresponding to the user operating  
3 system volume to which modifications to the user operating system volume are  
4 recorded.

1 13. The method of claim 12, further comprising storing information from the shadow  
2 volume to a persistent, user-specific storage area for use in a subsequent user  
3 session.

1 14. The method of claim 13, further comprising:  
2 receiving information identifying the user of the NC client; and  
3 providing the NC client with information indicative of the user's desktop  
4 environment by accessing the persistent, user-specific storage area.

1 15. A network computer (NC) server comprising:  
2 a boot server means for providing a boot image to an NC client, the boot image  
3 including information identifying the location on the NC server of one or  
4 more system volumes containing operating system software; and  
5 a storage management means for recording information identifying a modification  
6 to the operating system software in a storage area associated with the NC  
7 client that is separate from the one or more system volumes, the storage  
8 management means operative in response to a write request from the NC  
9 client that contains the modification.

1 16. A machine-readable medium having stored thereon data representing sequences of  
2 instructions, the sequences of instructions which, when executed by a processor,  
3 cause the processor to perform the steps of:  
4 providing a boot image to a network computer (NC) client, the boot image  
5 including information identifying a location on an NC server of one or  
6 more system volumes containing operating system software; and  
7 in response to a write request from the NC client that contains a modification to  
8 the operating system software, recording information identifying the  
9 modification in a storage area associated with the NC client that is separate  
10 from the one or more system volumes.

1 17. In a network computer (NC) system, a method comprising:  
2 an NC server providing a boot image to an NC client, the boot image including  
3 information identifying the location on the NC server of one or more  
4 system volumes containing operating system software;  
5 the NC client booting from the boot image provided by the NC server;  
6 the NC client mounting the one or more system volumes;  
7 in response to a write request from a file system of the NC client that contains a  
8 modification to the one or more system volumes, a block device driver of  
9 the NC client redirecting the write request to a storage area on the NC  
10 server that is associated with the NC client and which is separate from the  
11 one or more system volumes;  
12 the NC server receiving the write request from the NC client; and  
13 the NC server causing information identifying the modification to be recorded in  
14 the storage area associated with the NC client.

1   18.   A network computer (NC) system comprising:  
2       an NC server configured to provide a boot image to one or more NC clients  
3           associated with the NC system, the boot image including information  
4           identifying the location on the NC server of one or more system volumes  
5           containing operating system software; and  
6       an NC client coupled in communication with the NC server, the NC client  
7           configured to receive and boot from the boot image, the NC client  
8           including a file system process and a block device driver, the block device  
9           driver configured to redirect write requests directed to the one or more  
10          system volumes to a storage area on the NC server that is associated with  
11          the NC client and which is separate from the one or more system volumes.